

AMENDMENTS TO THE CLAIMS

1-22. (Canceled)

23. (New) An ultrasonic inspection apparatus for non-destructive inspection of a test body, the apparatus comprising:

a probe;

a transmitter operably connected to the probe, the transmitter generates transmitter pulses and delivers the transmitter pulses to the probe;

a receiver operably connected to the probe, the receiver receives echo signals; and

a monitor with a display operably connected to the receiver for representing the echo signals received,

wherein the probe delivers ultrasonic pulses and insonifies them at a certain angle (α) into a test body, the pulses penetrating the test body where the test pulses are at least once reflected from a rear wall of the test body forming, as a result thereof, at least one first leg that extends from an entrance surface to the rear wall and a second leg that extends from the rear wall to the entrance surface,

wherein the echo signals received are represented on the display so as to show from which leg the echo signals originate.

24. (New) The ultrasonic inspection apparatus as set forth in claim 23, wherein the echo signals on the display are represented in a diagram in the form of a measured curve, with time being plotted on a horizontal axis and voltage values on a vertical axis.

25. (New) The ultrasonic inspection apparatus as set forth in claim 24, wherein an alphanumeric character is associated with respective points of the measured curve that correspond to a respective transition from one leg to a next leg.

26. (New) The ultrasonic inspection apparatus as set forth in claim 24, wherein a line intersects the measured curve at a respective one of respective points of the measured curve that correspond to a transition from one leg to a next leg.

27. (New) The ultrasonic inspection apparatus as set forth in claim 24, wherein portions of the measured curve that originate from a certain leg are shown on a background that is typical for a respective one of the legs.

28. (New) The ultrasonic inspection apparatus as set forth in claim 24, wherein in the regions that originate from a certain leg, the measured curve is shown by a kind of line that is typical for a respective one of the legs.

29. (New) The ultrasonic inspection apparatus as set forth in claim 23, wherein the display is a color display.

30. (New) The ultrasonic inspection apparatus as set forth in claim 24, wherein the display is a color display.

31. (New) The ultrasonic inspection apparatus as set forth in claim 30, wherein portions of the measured curve that originate from a certain leg are placed on a colored background that is typical for a respective one of the legs.

32. (New) The ultrasonic inspection apparatus as set forth in claim 30, wherein in the regions that originate from a certain leg, the measured curve is shown by a color that is typical for a respective one of the legs.

33. (New) The ultrasonic inspection apparatus as set forth in claim 23, further comprising:

a means for determining a respective position of the probe on the surface of the test body, the means being operably connected to the probe.

34. (New) The ultrasonic inspection apparatus as set forth in claim 23, wherein only a region of the test body to be tested is represented on the display that is of interest for inspection, taking into consideration limit values in terms of at least one of amplitude and spatial limits.

35. (New) A method of representing echo signals obtained using an ultrasonic inspection apparatus for non-destructive inspection of a test body, the ultrasonic inspection apparatus comprising:

a probe,

a transmitter operably connected to the probe, the transmitter generating transmitter pulses and delivering the transmitter pulses to the probe,

a receiver operably connected to the probe, the receiver receiving echo signals; and

a monitor with a display operably connected to the receiver for representing the echo signals received, the method comprising the following method steps:

delivering ultrasonic pulses through the probe;

insonifying the ultrasonic pulses into the test body at a certain angle (α) such that the ultrasonic pulses penetrate the test body where the ultrasonic pulses are reflected at least once from a rear wall of the test body and form, as a result thereof, a first leg that extends from an entrance surface to the rear wall and a second leg that then extends from the rear wall to the entrance surface; and

representing the echo signals received on the display, wherein the echo signals received are represented on the display so as to show from which leg the echo signals originate.

36. (New) The method as set forth in claim 35, wherein the echo signals on the display are represented in a diagram in a form of a measured curve, with time being plotted on a horizontal axis and a voltage value on a vertical axis.

37. (New) The method as set forth in claim 36, wherein an alphanumeric character is associated with respective points of the measured curve that correspond to a respective transition from one leg to a next leg.

38. (New) The method as set forth in claim 36, wherein a line intersects the measured curve at a respective one of respective points of the measured curve that correspond to a transition from one leg to a next leg.

39. (New) The method as set forth in claim 36, wherein portions of the measured curve that originate from a certain leg are placed on a background that is typical for a respective one of the legs.

40. (New) The method as set forth in claim 36, wherein regions that originate from a certain leg, the measured curve is shown by a kind of line that is typical for a respective one of the legs.

41. (New) The method as set forth in claim 35, wherein the display is a color display.

42. (New) The method as set forth in claim 41, wherein portions of the measured curve that originate from a certain leg are placed on a colored background that is typical for a respective one of the legs.

43. (New) The method as set forth in claim 41, wherein regions that originate from a certain leg, the measured curve is shown by a color that is typical for a respective one of the legs.

44. (New) The method as set forth in claim 35, further comprising:
a means for determining a respective position of the probe on the surface of the test body,
the means being operably connected to the probe.

45. (New) The method as set forth in claim 35, wherein only a region of the test body to be tested is represented on the display that is of interest for inspection, taking into consideration limit values in terms of at least one of amplitude and spatial limits.